DOCUMENT RESUME

ED 468 117 HE 035 191

AUTHOR	Miller, Michael T; Lu, Mei-Yan
TITLE	Barriers and Challenges to Serving Non-Traditional Students in E-Learning Environments.
PUB DATE	2002-00-00
NOTE	17p.
PUB TYPE	Reports - Research (143)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	College Faculty; *College Students; *Distance Education; Electronic Mail; Higher Education; *Nontraditional Education; *Online Courses; *Student Evaluation

ABSTRACT

Online teaching in higher education has become increasingly common, particularly as colleges and universities attempt to serve surging enrollments in some areas and as they look to expand their offerings in other markets. A primary consumer of these courses is the nontraditional student. Because these nontraditional students have unique learning needs that must be addressed in the online classroom, this study sought to identify the barriers to success nontraditional students face in the online learning environment and the strategies teachers can use to assist these students. Assessment strategies for nontraditional students are also studied. Participants were 57 nontraditional students and faculty members who completed an online questionnaire. Among the barriers identified were a lack of experience with technology, a lack of support systems for the online learner, time constraints, and other aspects of the intangible aspects of supporting a culture of technology. Teacher responses reflected the "home-grown" responses of faculty members dealing with issues on a daily basis and responding with their own creative strategies. Assessment strategies identified were consistent with those of virtually any academic environment. The barriers and strategies identified were indicative of a labor market, college faculty, trained to perform the function of instruction in a live class situation but being asked to perform differently. (Contains 13 references.) (SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 468 117

Barriers and Challenges to Serving Non-Traditional Students in E-Learning Environments

Michael T. Miller
Associate Dean
College of Education
San Jose State University
One Washington Square
San Jose, CA 95192-0071
(408) 924-3607
michael.miller@sjsu.edu

Mei-Yan Lu
Professor
Department of Instructional Technology
San Jose State University
One Washington Square
San Jose, CA 95192-0071
(408) 924-3645
meiyan@pacbell.net

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

M. Miller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

AE035491

BEST COPY AVAILABLE

Abstract

On-line teaching in higher education has become increasingly common, particularly as colleges and universities attempt to serve surging enrollments in some areas and as they look to expand their offerings in other markets. A primary consumer of these courses is the non-traditional student. These non-traditional students have unique learning needs that must be addressed in the on-line classroom, and the current study sought to identify what barriers to success non-traditional students face in the on-line learning environment and subsequently what strategies teachers can use to assist these students. Assessment strategies for non-traditional students were also identified.

College student learning is mediated and impacted by a wide number of variables, including, but certainly not limited to, out of class interactions, willingness and preparedness to participate in college, social support networks, quality of instructional delivery, and personal motivation. Each of these variables alone has the ability to greatly alter the "success" of a collegiate experience, and have been examined from numerous perspectives (Pascarella & Terrinzini, 1991).

The "collegiate experience" has changed dramatically during the past decade, evolving in many ways to a more customer focused, customer-driven experience where tangible outcomes, such as jobs and graduate or professional school preparation, are specific intentions of many students. Institutions have responded in a myriad of ways, developing shortened programs, self-advising tools, career centers, testing preparation courses, and customized majors to meet the needs of this new generation of college student (Schaller & Twale, 2002). A dimension that institutions have particularly found attractive for serving the needs of contemporary college students is in on-line learning, where students can enroll in a particular course and complete the work 'anytime, anywhere.'

The advantages and disadvantages of on-line learning have been anecdotally reported by a number of different sources, ranging from advocates who blindly support anything technologically mediated, to those who blindly attack anything technologically supported. The body of research objectively examining on-line and technologically mediated learning has also begun to emerge, and typically finds content transmission to be as strong or stronger than in traditional classroom settings (Wright, Marsh, & Miller, 2000). The rationale for this has been attributed to the purposiveness of many on-line

classes and the commitment students make to learn in the classes, to the thinking that those who are not succeeding typically drop out of on-line classes, and those who do complete are those who would more likely learn from any class. Indeed, on-line course attrition is high, and this has been reported as a problem for on-line learning environments.

On-line learning, however debated, appears to be a new and consistent component in how colleges and universities respond to learner needs. Many institutions have or are in the process of developing substantial e-learning components through divisions of continuing or extended education, and emerging conversation among faculty development professionals is how to best prepare a teacher to offer an on-line course and how to best support student learning in that environment (Mills, 2002). A burgeoning body of literature has begun to populate a number of presses, and again, anecdotal conversations seem to predominante the debate and offerings of suggestions.

What kind of barriers faculty members see to the effective teaching of students in e-learning environments was the focus of the current study, and to delineate specific recommendations from those currently teaching to offer suggestions was an intended outcome. Additionally, for specificity, the current study was limited to teaching non-traditional students in college environments, that is, those students outside of the 18-24 age group, those who are first generation college students or who represent a multi-ethnicity, or those who have some form of disability. These populations are increasingly the population of e-learners, and are the most likely to find challenges in grappling with the technology and expectations of a non-traditional classroom environment. How faculty respond and what they think can be done is of interest to faculty development

professionals, those working in extended and continuing studies, academic administrators and policy makers as they construct the college of the 21st century.

Computers on Campus: Problems and Opportunities

Computer and general technology use on the college campus has increased dramatically during the past two decades, with the majority of that growth just occurring in the past ten years. Campus leaders have realized that administrative efficiency can be greatly improved through the use of computerized systems. Technology has also been widely embraced for its value-added benefits in instructional areas. The general effects of this shift in thinking about how colleges and universities organize courses and present content has not been broadly discerned, but Ayersman and Reed (2002) noted in their presentation that the impact of technology on campus and the reliance on technology particularly in instructional areas has begun to radically change student interactions and expectations of how they learn and what they expect from the institution.

College campuses have approached the integration of technology in a myriad of ways, ranging from required personal computer purchasing programs (Twale & Schaller, 2002) to computerized chalkboards (whiteboards) installed in classrooms throughout campus (Young, 2002). For many college students, this integration has been well received and is indicative of the changing sociological patterns for college-bound students who have multiple and complex dealings with a broad variety of technologies from an early age. Indeed, for many college students the level of technological integration into a specific class (such as a Powerpoint presentation) might seem rudimentary when compared to other media applications, such as exposure to animated

games and simulations, purchasing on-line, internet exposure, etc. The result, as Murray (1997) noted and Perry and Perry (1998) reinforced, technology on campus is nothing new and generally adds a spark of interest to student learning, but the true potential of technological integration has yet to be realized.

Katsinas and Moecek (2002) made a counter-argument for technology on campus through their examination of rural community colleges and the 'digital divide.' Their argument subsequently arises to represent the foundation of the current study. Katsinas and Moecek noted that while many students arrive on campus well prepared for using technology, there is a large segment of the college student population, namely the non-traditional college student (represented by any number of definitions, but particularly including those from lower-economic strata and first-generation college students) that is not entirely comfortable with technology. The use and integration of technology, then, does not become an enabling variable in the collegiate experience, but conversely becomes a detriment to persistence.

The challenge facing the college administrator in general and the college instructor in specific, then, is how to marry the opportunities presented by an increasingly technologically savvy learning environment in an equitable fashion to all students. This is particularly true as institutions seek stronger diversification of enrollment patterns and rely on online program delivery as a cost-effective, profitable distribution mechanism. Courses that enroll non-traditional students typically run a higher risk of attrition, and subsequently, are of a higher risk to the institution to provide, as enrollments that diminish once the course of study is underway have no way of recovering the costs of student attrition. Online courses make financial sense because of this thinking, as the

instructional and start-up costs are fixed, and the size of class is consistent with profitability.

To the instructor and the college administrator, then, serving non-traditional students in online environments is a business decision as well as an instructional and ethical decision. For student success to be realized, there must be a special effort directed at meeting these students' unique needs and responding in a manner that is respectful of academic integrity. The current study offers an initial step in this direction by cataloging many of the activities that current online faculty make use of in meeting non-traditional student needs, however, these findings are only the beginning of a much larger conversation that must include the actual voices of students and having institutions actually hear and respond to what these students are saying.

Research Procedures

As part of a larger study of meeting non-traditional learner needs in e-learning environments, three open ended questions were presented to a group of professionals who worked with on-line teaching. The questions were developed as part of a field-work assessment of courses in the Department of Instructional Technology at San Jose State University, located in the Silicon Valley. The instrument had been used with four graduate classes and several field work placement locations, and was accepted as reliable and valid for the current exploratory study. The open-ended questions included:

- What do you believe is the most substantial barrier to non-traditional student learning success in on-line environments?
- What is the most effective strategy or set of strategies that can be used to build a learning community among non-traditional learners in an on-line environment?

- What student learning outcome assessment do you believe to be most effective (such as portfolios, demonstrations, etc.)?

The sample consisted of 100 members of an on-line teaching support network affiliated with a major research university in the mid-Atlantic region. The random sample was conducted using a table of random numbers, and the surveys were distributed in 2001-2002 through electronic mail. A total of 57 (57%) surveys were returned that included responses to the open-ended questions. Responses were collated and edited for duplication.

Findings

As indicated, responses to individual questions were collated and edited for duplication, resulting in 14 specific responses to barriers to student success, 12 responses for faculty response strategies to these barriers, and 10 assessment techniques to be used by faculty to help non-traditional students. Statements in category have been presented below with some initial interpretation provided.

Barriers to Student Success

To be successful in a collegiate environment, learners must be prepared to enter classes, must have the predispositions to be successful, and must demonstrate a certain degree of openness to the idea of learning. More than these ideas, though, learners must have tangible support system and a culture which encourages success in individual classes as well as in academic programs. This support is derived from a number of sources, such as student affairs professionals and academic advisors, but is specifically embodied in teachers. The following statements were identified by faculty members who

taught online courses when asked "What do you believe is the most substantial barrier to non-traditional student learning success in online environments?"

In no particular order, the following barriers were identified:

1. no history working with technology
2. have not worked with on-line courses in the past, therefore creating a barrier
3. few social support systems in place to help the learner overcome challenges
4. resources
5. access to on-line support
6. the biggest problem is when a non-traditional learner runs into a stumbling block, and has to find a way to overcome the obstacle. Frankly, non-traditional students by any definition tend to not have the history, family, or support system necessary to overcome challenges. I think the goal is to build a fail-proof system that connects faculty, administrators, and students so that the non-traditional learner is challenged by the material, not the delivery of the material.
7. a social system
8. digital divide
9. expectations of technology use by the non-traditional learner
10. non-traditional learners don't have the academic experience to succeed
11. technology is only beginning to become disability friendly, and most technology that is disability friendly is quite expensive and difficult to access. Universities tend to forget about students with disabilities as non-traditional learners, and rarely build supports for this constituent. For example, students with visual disabilities should be able to have oral presentation of materials from an on-line course, but most faculty don't even consider that as an option.
12. non-traditional students don't have the money to buy state-of-the-art technology to keep up on-line learning demands
13. time (because of work, family, etc.)

14. non-traditional students don't have the time to 'play-around' with technology and with the subtext of on-line classes, so they really take away very little of the content in a long-term, meaningful fashion

The responses seem to consistently reflect the non-tangible aspects of supporting a culture of technology. While there are some very specific elements that serve as barriers (not having technology as a child, not being around technology frequently), many of these identified barriers are also those commonly associated with non-traditional student success in general (time to experiment with technology, time in general because of work and family demands, etc.).

Response Strategies

Faculty teaching online were also asked to identify the most effective strategy or set of strategies that can be used to build a learning community among non-traditional learners in on-line environments. Respondents identified the following:

1. have the class meet before the semester begins, during the middle of the semester, and at the end of the semester
2. provide pictures and biographies of everyone in the class
3. focus on building culture through learner interaction, not professor to student interaction
4. make the technology invisible
5. have a user-friendly, almost counseling background, tech support person
6. have someone from a teaching-learning center or division of student affairs serve as a consultant to the course design
7. spend time, as the faculty member or student affairs consultant, thinking about what different types of students would find helpful
8. provide a matrix of how assignments fit in with the course expectations

9. re-build the course from scratch every two or three semesters, thinking creatively about how to build the initial website and the types of expectations, simulations, group work, and other assignments fit together to challenge the learner

10. there has to be a focus on community, and a professor can define that in any number of ways. What has to happen, though, is for the professor to take the time to critically think about how to create a sense of culture that is loyal to the academic discipline

11. color schemes and a marketing approach are important

12. real-time support systems (tech and class) are important.

These comments ranged from the predictable relating to a culture of acceptance and success to the consumer-savvy, relating specific color schemes on course learning pages. The response strategies identified appeared to be relatively "home-grown" and the response of faculty members dealing with these issues on daily basis and responding through trial, error, and their own creative strategies. Despite the sophistication of the technology medium, there was little emphasis on the corporate and marketing responses typically provided to internet customer retention. The allusion, then, is that the medium of distributed learning has progressed, while the abilities to use the tool have not progressed at the same rate.

Outcome Assessment Strategies

Faculty teaching online were also asked what student learning outcome assessments they believed to be the most effective for working with non-traditional learners. The rationale for the question was driven largely by the differences in learning styles that many non-traditional students have reported, and that the desire to make e-

learning more adaptive to these students, alternative assessment strategies might be utilized. The 10 strategies identified by respondents included:

1. there is no replacement for real-time testing
2. portfolios are good when they are used correctly, but typically they are used incorrectly and rendered useless
3. I have students come back to campus and sit down and take a test.
4. essay testing provides good synthesis
5. it's all about timing. You have to give them a real test to demonstrate that the course content is meaningful. The test needs to go out at a certain time, and students have x number of days to respond.
6. I do like portfolios, but you have to spend a lot of time giving instructions on how to select your best work and how to package that in a way that makes sense to other students or to me.
7. I use a lot of little assignments; reading reflections, journaling, papers, bibliographies, etc. that force students to stay on task. The grade pretty much takes care of itself
8. outcomes I use are no different than those I use in my regular classes.
9. assessment needs to be driven by content. In some cases a portfolio or demonstration may be appropriate, but the vast majority of what is used are formal papers.
10. participation needs to be a bigger key to using on-line courses. Students need to be in environments where there is feedback, collaboration, and reflection.

The assessment strategies identified were consistent with those found in virtually any given academic environment. Assessments ranged from portfolios to in-class live tests, to multiple, low-apprehension assignments ("a lot of little assignments") and essay tests. These responses again suggest that fairly traditional approaches to instruction are being undertaken with e-learning, despite the technologically sophisticated options available through new technologies.

Discussion

The current study was intended to be very exploratory and to initiate a constructive dialogue about how an important and continually emerging segment of the college student population is served in online environments. Non-traditional student service is certainly a key area for enhancing this segment of enrollment growth, and as the technology for reaching this market has become more sophisticated, faculty response strategies also need to become more sophisticated. Higher education is poised for a radical transformation, but this transformation must be driven at least in part by the academe's efforts to adapt to the changing environment in which it exists.

The growth in online education also represents a larger debate about the role, mission, and function of higher learning in general and higher education products in specific. There are few who debate that education can be offered online, but there seem to be many who resist the movement of additional courses, and more importantly, resources, in this direction.

The barriers and strategies identified here are indicative of a labor market trained to perform a certain set of functions, namely live class instruction, being asked to do different kinds of functions. Adaptations of the online environment to include live class meetings, teaming, and aesthetically pleasing websites demonstrate an effort to define how classes be modified. There must be much more discussion, debate, and research to formulate a method of how to adapt courses. The current vernacular has simply become 'don't change the content, just change the presentation,' yet when students can get more from their classes, there is a natural tendency to begin looking at how the content can be changed. Additionally, if there are unusually high attrition rates from online classes,

there needs to be a serious effort to look at making the experiences more likely to be pleasing and hold enrollment.

References

Ayersman, D. J., & Reed, W. M. (2002). The effects of a four-year college experience on students' stages of concern toward the campus academic computer network. Paper presented at the Annual Meeting of the Eastern Educational Research Association, Sarasota, FL.

Katsinas, S., & Moeck, P. (2002). The digital divide and rural community colleges: Problems and prospects. Community College Journal of Research and Practice, 26, 207-224.

Kuh, G. (1990). The demographic juggernaut. In M. Barr & M. Upcraft (Eds.), New Futures for Student Affairs: Building a Vision for Professional Leadership and Practice (pp.). San Francisco: Jossey-Bass.

Miller, M., & Husmann, D. (1996). A holistic model for primary factors in the ecology of distance education course offerings. Journal of Distance Education, 11(1), 101-110.

Mills, K. (2002). Distance learning online education has become part of the landscape. National Crosstalk, 10(1), 8-10.

Moore, M. (1993). Is teaching like flying? A total systems view of distance education. American Journal of Distance Education, 7(1), 1-10.

Murray, N. (1997). Welcome to the future: The millennial generation. Journal of Career Planning and Employment, 57(3), 36-40, 42.

Pascarella, E., & Terenzini, P. (1991). How college affects students. San Francisco: Jossey-Bass.

Perry, T., & Perry, L. (1998). University student's attitudes towards multimedia presentations. British Journal of Educational Technology, 29(4), 375-377.

Rakoff, J. (2001). E-boredom? University Business, 4(3), 16.

Schaller, M. A., & Twale, D. J. (2002). Social use of computers by first and second year students participating in a mandatory computer purchase program. Paper presented at the Annual Meeting of the Eastern Educational Research Association, Sarasota, FL.

Twale, D. J., & Schaller, M. A. (2002). How students in a mandatory computer purchase program use their computers. Paper presented at the Annual Meeting of the Eastern Educational Research Association, Sarasota, FL.

Wright, V., Marsh, G., & Miller, M. (2000). A critical comparison of graduate student satisfaction in asynchronous and synchronous course instruction. Planning and Changing, 31(1 & 2), 107-118.

Young, J. R. (February 8, 2002). Electronic whiteboards add flexibility to classrooms. Chronicle of Higher Education, A36.

HE035191

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: Barriers and Challenges to Serving Non-Traditional Students in E-Learning Environments	
Author(s): Michael T. Miller and Mei-Yan Lu	
Corporate Source:	Publication Date:

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

XXX

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, → please

Signature: Michael T. Miller	Printed Name/Position/Title: Michael T. Miller	
Organization/Address: College of Education, San Jose State University, San Jose, CA 95192-0071	Telephone: 408/924-3600	FAX: 408/924-3713
	E-Mail Address: michael.miller@sjsu.edu	Date: 8/23/02

(over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@inet.ed.gov
WWW: http://ericfacility.org